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Application No. 10/711,653
Technology Center 2824
Amendment dated July 5, 2007
Reply to Office Action dated February 12, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): An apparatus for increasing power to at least one memory module in at least a first of a plurality of memory slots ~~a memory array~~ of a memory subsystem associated with a motherboard of a computer, the apparatus comprising means for supplying an input voltage to the memory module of the memory subsystem at a level that is higher than a power level provided to the memory subsystem by the motherboard, the input voltage supplying means having a portion configured to plug directly into an available second memory slot of the memory subsystem and is thereby linked to a memory bus of the memory subsystem to deliver the input voltage to the memory module in the first memory slot.

Claim 2 (Currently amended): The apparatus according to claim 1, wherein the higher level of the input voltage is such that memory performance

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of the memory subsystem is improved by causing memory chips on the memory module to run at higher frequencies. ~~the supply means comprises means for electrically connecting the supply means to an available memory slot of the memory subsystem, the connecting means delivering the input voltage to the memory subsystem.~~

Claim 3 (Canceled)

Claim 4 (Original): The apparatus according to claim 1, wherein the input voltage is in excess of available voltage present on a motherboard within the computer.

Claim 5 (Original): The apparatus according to claim 1, wherein the input voltage is in excess of 3.3 volts.

Claim 6 (Currently amended): The apparatus according to claim 1, wherein the apparatus further comprises cable means that delivers a supply voltage from a power source to the input voltage supplying ~~supply~~ means.

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Claim 7 (Original): The apparatus according to claim 6, wherein the power source is external of the computer and comprises an AC/DC converter.

Claim 8 (Original): The apparatus according to claim 6, wherein the power source is external of the computer and comprises a DC power source.

Claim 9 (Original): The apparatus according to claim 6, wherein the power source is a power supply unit within the computer.

Claim 10 (Currently amended): The apparatus according to claim 6, wherein the power source supplies at least five volts to the input voltage supplying ~~supply~~ means.

Claim 11 (Currently amended): The apparatus according to claim 1, wherein the second ~~available~~ memory slot is on a motherboard of the computer.

Claim 12 (Currently amended): The apparatus according to claim 1, wherein the input voltage supplying ~~supply~~ means comprises at least a first

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printed circuit board and the portion of the input voltage supplying means comprises electrical pins along an edge of the first printed circuit board, the edge of the first printed circuit board being configured to be received in the second memory slot and the pins being configured for making electrical contact with the second memory slot.

Claim 13 (Currently amended): The apparatus according to claim 12, wherein the input voltage supplying ~~supply~~ means further comprises means for displaying the input voltage delivered by the input voltage supplying ~~supply~~ means to the memory subsystem, the displaying means not being located on the first printed circuit board.

Claim 14 (Currently amended): The apparatus according to claim 12, wherein the input voltage supplying ~~supply~~ means further comprises means for adjusting the input voltage delivered by the input voltage supplying ~~supply~~ means to the memory subsystem, the adjusting means not being located on the first printed circuit board.

Claim 15 (Currently amended): The apparatus according to claim 1,

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wherein the input voltage supplying ~~supply~~ means comprises means for displaying the input voltage delivered by the input voltage supplying ~~supply~~ means to the memory subsystem.

Claim 16 (Currently amended): The apparatus according to claim 1, wherein the input voltage supplying ~~supply~~ means comprises means for adjusting the input voltage delivered by the input voltage supplying ~~supply~~ means to the memory subsystem.

Claim 17 (Original): The apparatus according to claim 1, wherein the memory subsystem comprises DIMM memory modules.

Claims 18-27 (Canceled)

Claim 28 (Currently amended): A method of providing power to at least one memory module in at least a first of a plurality of memory slots ~~a memory array~~ of a memory subsystem of a computer, the method comprising the steps of:

electrically connecting a supply means to an available memory slot

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of the memory subsystem;

electrically connecting a power source to the supply means so that
the supply means generates an input voltage; and

delivering the ~~an~~ input voltage to the memory module through a
memory bus of the memory subsystem to deliver the input voltage to the
memory module in the first memory slot. ~~subsystem with the supply means.~~

Claim 29 (Original): The method according to claim 28, wherein the input voltage is in excess of available voltage present on a motherboard within the computer.

Claim 30 (Original): The method according to claim 28, wherein the input voltage is in excess of 3.3 volts.

Claim 31 (Original): The method according to claim 28, wherein the power source is external of the computer.

Claim 32 (Original): The method according to claim 28, wherein the power source is a power supply unit within the computer.

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Claim 33 (Original): The method according to claim 28, wherein the power source supplies at least five volts to the supply means.

Claim 34 (Original): The method according to claim 28, wherein the available memory slot is on a motherboard of the computer.

Claim 35 (Original): The method according to claim 28, further comprising the step of displaying the input voltage delivered by the supply means to the memory subsystem.

Claim 36 (Original): The method according to claim 28, further comprising the step of adjusting the input voltage delivered by the supply means to the memory subsystem.

Claim 37 (Original): The method according to claim 36, wherein the adjusting step comprises the steps of:

rebooting the computer after the electrically connecting;

entering the BIOS of the computer;

adjusting the input voltage delivered by the supply means to the

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memory subsystem whereupon the supply means delivers the input voltage to the memory subsystem; and then
saving and exiting the BIOS.

Claim 38 (Original): The method according to claim 36, wherein the adjusting step is performed during operation of the computer.

Claim 39 (Original): The method according to claim 36, wherein the adjusting step is performed during system idle of the computer.

Claim 40 (Original): The method according to claim 36, wherein the adjusting step is performed when the computer is off.

Claim 41 (Original): The method according to claim 28, wherein the memory subsystem comprises DIMM memory modules.

Claim 42 (Original): The method according to claim 28, wherein the step of electrically connecting the supply means to the available memory slot comprises physically installing the supply means into the available memory

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slot.

Claim 43 (Original): The method according to claim 28, wherein the step of electrically connecting the supply means to the available memory slot does not comprise physically installing the supply means into the available memory slot but instead comprises using a separate interface means to electrically couple the supply means and the memory subsystem.